

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of MICHAEL J. SULLIVAN ET AL

Part # 9

Serial No. 08/631,613

Examiner: Marlo, G.

Filing Date: 04/10/96

Group Art Unit: 3304

For: Improved Multi-Layer Golf Ball

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

## DECLARATION OF MARK L. BINETTE UNDER 37 C.F.R. 1.132

I, Mark L. Binette, hereby declare and say that:

1. I am a co-inventor of U.S. Application No. 08/631,613 and am employed as an associate scientist for Spalding Sports Worldwide.
2. I understand that the claims of U.S. Application No. 08/631,613 have been rejected as being obvious in view of U.S. Patent No. 5,586,950 to Endo.
3. I formed 1 - 2 dozen golf balls in accordance with Comparative Example No. 2 of Endo '950. The balls of Comparative Example 2 appear to be the most similar of all of the Examples provided in Endo '950 to the subject matter claimed in U.S. Application No. 08/631,613. The balls which I produced are designated as Example 4 on Table 1 below. I also prepared 1 - 2 dozen golf balls with the same mantle layer composition as was used in Comparative Example No. 2 of Endo, but using a different type of outer cover layer. This set of examples is designated as Example 2 on Table

1. Furthermore, I prepared a number of control examples, which are designated as Examples 1, 3, 5 and 6 on Table 1.

4. The cores for the balls of each example were molded and centerless ground to the appropriate size. The mantles used in Examples 1 - 4 were injection molded in a 1.63" injection mold. The mantles for the balls of Examples 5 and 6 also were injection molded. All cover molding was performed in an injection mold. The core and cover formulations referenced on Table 1 are set forth on Table 2.

5. As indicated above, the balls of Example 4 are replicas of Comparative Example 2 of Endo '950. These balls have an outer cover layer with a Shore D hardness of 57 when the hardness is measured on the curved surface of the ball, rather than on a plaque.<sup>1</sup> Thus, the balls have a harder outer cover than is claimed in original claims 1 - 37 and in new claim 38 of the present application. I also note that the Endo specification at column 12, lines 35 - 40 indicates that the balls of Comparative Example 2 were rated as "XS," meaning that they were too soft and heavy and had inferior resilience. It is therefore clear that the balls which have a softer cover than that of Example 4 on Table 1 also would be considered "too soft" under the standards of Endo '950. Stated another way, Endo does not disclose or teach the soft multi-layer ball that is claimed in the present application.

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<sup>1</sup> For purposes of this declaration, "Shore C/D hardness" of a cover is measured generally in accordance with ASTM D-2240, except the measurements are made on the curved surface of a molded cover, rather than on a plaque. Furthermore, the Shore hardness of the cover is measured while the cover remains over the core. When a hardness measurement is made on a dimpled cover, Shore hardness is measured at a land area of the dimpled cover.

6. The balls of Examples 1, 2 and 5 fall within the scope of the invention which is claimed in the present application, as their outer cover layer hardness is 48 - 49. In contrast, the balls of Examples 3, 4 and 6 fall outside the scope of the claims of the present application, as the claims recite a Shore D hardness value of 50 or less, or more preferably 48 or less.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 7-22-97

Mark L. Binette  
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Ref: P-4628 - SPALD/164/US

**Table 1**

	<b>Ex. 1</b>	<b>Ex. 2</b>	<b>Ex. 3</b>	<b>Ex. 4</b>	<b>Ex. 5</b>	<b>Ex. 6</b>
<b>Core Data</b>						
<b>Core Type (see Table 2)</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>B</b>	<b>B</b>
<b>Core Size (in.)</b>	<b>1.50</b>	<b>1.50</b>	<b>1.50</b>	<b>1.50</b>	<b>1.47</b>	<b>1.47</b>
<b>Mantle Data</b>						
<b>Ingredients</b>	<b>phr</b>	<b>phr</b>	<b>phr</b>	<b>phr</b>	<b>phr</b>	<b>phr</b>
<b>Iotek 1002</b>	<b>50</b>	<b>---</b>	<b>50</b>	<b>---</b>	<b>50</b>	<b>50</b>
<b>Iotek 1003</b>	<b>50</b>	<b>---</b>	<b>50</b>	<b>---</b>	<b>50</b>	<b>50</b>
<b>Surlyn 9910</b>	<b>---</b>	<b>50</b>	<b>---</b>	<b>50</b>	<b>---</b>	<b>---</b>
<b>Surlyn 8940</b>	<b>---</b>	<b>35</b>	<b>---</b>	<b>35</b>	<b>---</b>	<b>---</b>
<b>Surlyn 8920</b>	<b>---</b>	<b>15</b>	<b>---</b>	<b>15</b>	<b>---</b>	<b>---</b>
<b>TiO<sub>2</sub></b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>---</b>	<b>---</b>
<b>Diameter (in.)</b>	<b>1.625</b>	<b>1.625</b>	<b>1.625</b>	<b>1.625</b>	<b>1.57</b>	<b>1.57</b>
<b>Thickness (in.)</b>	<b>0.063</b>	<b>0.063</b>	<b>0.063</b>	<b>0.063</b>	<b>0.50</b>	<b>0.50</b>
<b>Shore C/D Hardness (measured on ball)</b>	<b>97/70</b>	<b>96/68</b>	<b>97/70</b>	<b>96/68</b>	<b>97/70</b>	<b>97/70</b>
<b>Cover Data</b>						
<b>Cover Type (see Table 2)</b>	<b>#1</b>	<b>#1</b>	<b>#2</b>	<b>#2</b>	<b>#1</b>	<b>#2</b>
<b>Size (in.)</b>	<b>1.70</b>	<b>1.70</b>	<b>1.70</b>	<b>1.70</b>	<b>1.68</b>	<b>1.68</b>
<b>Thickness (in.)</b>	<b>0.038</b>	<b>0.038</b>	<b>0.038</b>	<b>0.038</b>	<b>0.055</b>	<b>0.055</b>
<b>Shore C/D Hardness (measured on ball)</b>	<b>75/49</b>	<b>75/49</b>	<b>84/57</b>	<b>83/57</b>	<b>72/48</b>	<b>83/56</b>
<b>Compression (Riehle)</b>	<b>63</b>	<b>66</b>	<b>60</b>	<b>63</b>	<b>83</b>	<b>80</b>
<b>COR</b>	<b>800</b>	<b>795</b>	<b>805</b>	<b>798</b>	<b>779</b>	<b>787</b>

Table 2

<u>Core Formulations</u>			<u>Cover Formulations</u>		
Materials (phr)	A	B	Materials (phr)	#1	#2
BR 1220 (High cis polybutadiene)	73	70	lotek 8000	8.5	—
Taktene 220 (High cis polybutadiene)	27	30	lotek 7510	41	—
Zinc Oxide	22.3	31.5	lotek 7520	41	—
TG Regrind	10	16	Masterbatch C	9.5	—
Zinc Stearate	20	16	Surlyn 1557	—	10
Zinc Diacrylate	26	20	Surlyn 1855	—	20
Masterbatch A	0.15	—	Surlyn 8265	—	20
Masterbatch B	—	0.15	Surlyn 8269	—	50
Luperc 231 XL peroxide	0.9	0.9	TiO <sub>2</sub>	—	2

